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XL.—*Letters, Extracts, and Notes.*

Bird-migration and the Marking Method.

SIR,—As one of the largest individual ringers of birds in this country, I read Professor Thomson's article on "Bird-migration by the Marking Method" with great interest. In the literature of the subject, however, I was astonished to find no mention of the marking experiments conducted by the late Professor J. A. Palmén, of Helsingfors University, in Finland, or by the Russians at Kielkond, on the island of Oösal, under Herr Stoll. I have found ringed birds in this country marked by both of these gentlemen. Professor Palmén's experiments show some wonderful results, Black-headed Gulls (*Larus ridibundus*), for instance, showing two distinct lines of migration, the one down the Baltic and the other overland across Europe *via* Austria to the Mediterranean. His ringing of other species, many of them within the Arctic Circle, also showed long journeys. Large numbers of each species must be marked before any conclusions can be arrived at, yet Professor Thomson also fails to mention my article in 'British Birds,' vol. viii. p. 209, on the result of marking nearly twelve thousand Black-headed Gulls (*Larus ridibundus*) in this country. To Professor Thomson's query: "Do young birds seek the same winter quarters as their parents?" the answer is that they

do, as shown by more than one species, especially Lesser Black-backed Gulls (*Larus fuscus affinis*), bred in this country, of which quite an encouraging percentage has been recovered.

Neither is any mention made of Palmén's ducks marked in the far north, which show some wonderful results, two Teal, for instance, being recovered in Spain and Italy respectively. His Starling records are also intensely interesting, showing, as they do, several recoveries in this country. In the article three records only are given of Swallows marked with 'British Birds' rings being recovered in South Africa, whereas the number should be five. Again, no mention is made of the wonderful record of a Wigeon marked with a 'British Birds' ring in England and recovered in Asia. With regard to the supposed sedentary habits of the British Redbreast, I can quote at least two instances of such marked birds being recovered abroad.

Finally, it would be interesting to learn the total number of birds marked by the American Bird Banding Association. I might conclude by saying that Mr. F. W. Smalley and myself once marked 720 birds of one species in the course of one day.

H. W. ROBINSON.

* The Patchetts,
Caton, near Lancaster,
1 August, 1921.

Birds of Alderney.

SIR,—I notice that in Major W. R. Thompson's interesting paper in the July number of 'The Ibis' on the Birds of Alderney, he assigns the Goldfinch, Bullfinch, Tree-Creeper, Great Tit, Blue Tit, Song-Thrush, Robin, and Dipper to the British forms without comment. Referring to Mr. Witherby's 'Practical Handbook,' I find that all these are said to be confined to the British Islands except the Song-Thrush and Robin. I do not know whether birds of all these species from north-west France have been compared with the British forms, or whether Channel Island birds have been compared with either French or British ;

but, from the position of the Channel Islands, one would suppose that resident birds there would conform more closely to the birds of the adjoining French coast than to those of the far more distant coasts of England. In any case, unless the results of comparisons made have already been published somewhere, I think it can be hardly safe to assume that the breeding birds of the Channel Islands are all of the British form. I do not think birds pay much respect to political geography.

Yours truly,

H. G. ALEXANDER.

78 Gibbins Road,
Selby Oak, Birmingham,
20 July, 1921.

Subspecies and Evolution.

SIR,—Without any claim to the “highly trained scientific mind” postulated for the critic of Colonel Meinertzhagen’s paper: “Some Thoughts on Subspecies and Evolution” in the last number of ‘*The Ibis*,’ one or two points may be raised.

The first is his use of the term Mutation. It is not clear whether it is used in the sense of De Vries, or whether it is applied (as some modern writers have applied it) to certain characters transmitted in accordance with Mendel’s Law. On p. 533, lines 27 and 28, it seems to refer simply to monstrosities or deformities. There is also apparent confusion between Mendel’s discoveries and the Germ-plasm Theory of Weismann, though the latter is only mentioned by name once (p. 535), and then in a passage which suggests a printer’s error.

A second point is, that it is not established that when domesticated forms return to feral life, they always revert indistinguishably to their ancestral type. This has not taken place in the case of the Porto Santo Rabbit described by Haeckel (‘*History of Creation*,’ English translation, vol. i.).

Thus the following (p. 532) is misleading :

“The mutationist will argue that whenever a domesticated variety resumes a wild life, the original wild stock being dominant to the recessive domesticated variety, such

variety must revert, and that such a process is in strict accord with Mendel's theory."

The word "recessive" implies that "dominant" is used not in its general, but in its technical Mendelian sense. We suppose that "mutationist" means here a student of Mendel's principles of heredity, and such a one might be surprised at the views imputed to him.

The appearance of certain characters in the Mendelian ratio is not a theory, but a law demonstrated by experiment, and the "Mendelian Law" simply means that such characters will appear in definite proportions in each generation.

If we suppose that characters which appeared under domestication are recessive, when the domesticated forms interbreed with the wild stock, even if the recessives are so strictly weeded out by natural selection that they never survive to breed, still a certain number of recessives will infallibly appear whenever two heterozygotes interbreed. This, and not necessarily Colonel Meinertzhagen's assumption, is what is in strict accordance with Mendel's Law. Cases in nature are probably never so simple as this hypothetical one. For instance, recent work on Lepidoptera suggests that in certain cases the recessives are better able to survive than the dominants.

From the last paragraph on p. 530, and the second paragraph on p. 532, we are led to believe that Colonel Meinertzhagen considers breeding experiments to be of little use in the study of evolution. Yet on p. 535 he notices with approval Kammerer's well-known experiments on Amphibia, from which "it would appear that acquired characters are indeed heritable." Modern biologists, while acknowledging the interest and significance of Kammerer's results, would perhaps hardly commit themselves yet to such a final assertion on the Homeric Question in biology.

Further, there is every reason to believe that Mendel's Law holds for animals in a natural state. Take, for example, Lang's experiments on *Helix nemoralis* described by Darbishire (Journ. of Conchology, 1905). Some remarks by the latter (Introduction to a Biology, 1917, pp. 217-219) on the normal and abnormal in inheritance also answer

some of Colonel Meinertzhagen's contentions about artificial breeding and "freakish" varieties.

As regards the statement on p. 532, it may be true of domesticated birds that "no single artificial variety has ever, so far as we know, occurred in a wild state," but this is not the case for numerous species of plants, nor for other groups of animals. See, for instance, Tower's observations on *Leptinotarsa* (Pub. Carnegie Inst. Washington, 1906). Tower's work has been criticised on the ground that it is not certain that the strains he employed were pure—*i. e.* genotypes; but this does not affect the value of his observations as an argument against Colonel Meinertzhagen's assertion, quoted above.

I repeat that I have no desire to criticise Colonel Meinertzhagen's views on subspecies, one way or the other. They may, or may not, be correct, but I take some exception to his manner of stating them, and still more to his method of founding conclusions on generalisations that are not always supported by facts.

There are three methods by which, singly or in combination, a scientific problem may be approached—induction, observation, and experiment; and, ultimately, it is only by experiment that a theory can be tested. Birds are a group which at present do not lend themselves to experiment, except in certain restricted instances; but because our experimental methods are inadequate, it is surely unreasonable to argue that all experimental work is unreliable, or that the facts themselves do not exist.

I am unable to offer an opinion on the origin of species, owing to insufficient knowledge of the biological evidence necessary to form one; but I am convinced that it will be only by experiment that any of the different theories advanced will be raised from the quicksand of a hypothesis to the firm ground of demonstrated fact.

MAUD D. HAVILAND, H.M.B.O.U.

Research Fellow in Zoology.

Newnham College,
Cambridge,
16 August, 1921.

Nestling Plumages of Owls.

SIR,—Mr. Witherby's letter *re* the above ('Ibis,' p. 567) has caused me to go into the matter again.

Mr. Witherby writes: "I cannot agree with Mr. Bonhote that the Eagle-Owl has three generations of plumage before acquiring feathers like those of the adult. . . . I find . . . that the first down is immediately succeeded by the juvenile plumage. . . . The specimens in the British Museum clearly show the shortish white down attached to the tips of these downy feathers."

I have examined these same specimens in the Museum, and find that "downy feathers" of the juvenile plumage and the down of the second plumage *both* carry the shortish white down at their tips.

The second down plumage has also been noted by two other observers—(1) Mr. Gurney, 'Zoologist,' 1849, p. 2567; (2) M. Lavauden, 'Revue Française d'Ornithologie,' May 1920, p. 60.

The first point to be considered is the chronological sequence and age at which these plumages show. Mr. Gurney's notes and mine exactly coincide. Mr. Gurney writes that the young were hatched on 19 May and covered with a whitish down; at three weeks old they assume a second down, and the first feathers (? quills, J. L. B.) began to appear at five weeks; on 23 July they could fly to the perches.

My birds were hatched on 25 May; on 21 June (three weeks and five days) they were covered with a buffish down; on 3 July (five weeks) the quills were just showing; on 8 August they could fly, and they were in adult dress by 6 September.

There can therefore be no doubt whatever that the Eagle-Owl has three distinct plumages before assuming its first winter plumage. The point, then, is how can these plumages be morphologically interpreted, in view of the fact that, as Mr. Witherby points out and in which I concur, the juvenile (third) plumage bears the first white down on its tips, as does also the second down plumage.

Adult birds are clothed with down and feathers, the latter usually concealing the former. Morphologically, the first generation of down or feathers is known as neossoptiles, and the second and subsequent generations as teleoptiles. In many species the neossoptiles are entirely suppressed. Some writers distinguish between the neossoptiles that precede the down and those that precede the feathers, calling the former preplumulae and the latter prepennae. In some species the neossoptiles are entirely preplumulae, in others entirely prepennae, whilst in many species they are both prepennae and preplumulae.

Newton, while noting that adult birds are clothed with down and feathers, regards them as morphologically identical, but the down representing a more primitive type of feather (Newton, *Dict. of Birds*, p. 242). Without going into this matter in detail, what happens in the case of the Eagle-Owl is now pretty clear. The first white down represents the neossoptiles; my second and third plumages form together the first generation of the teleoptiles; but since they do not appear simultaneously at first, we have an apparent second plumage consisting solely of the first teleoptile down, and an apparent third plumage, which corresponds with the "juvenile" plumage, consisting of the first teleoptile feathers.

The Barn-Owl seems to offer a slightly different problem. When hatched it is covered with a short white down, which is succeeded by a long white down followed by true feathers. It differs from the Eagle-Owl in the fact that the first true feathers are the second generation of teleoptiles and bear the long second down at their tips. It follows, therefore, that the long second down of the Barn-Owls corresponds to the first teleoptile or juvenile plumage, but in the Barn-Owls it is entirely downy, whereas in the Eagle-Owl it is a "downy feather." It is probable, however, that in the Barn-Owl, as in the Eagle-Owl, the first teleoptile down precedes the first teleoptile "feathers," but that in the Barn-Owl they are indistinguishable. While on this subject I have had occasion to look at Sparrow-Hawks, having some downy

young at hand, and find that their plumages are exactly analogous to those of the Eagle-Owl; at a certain age they are covered with a long second down, bearing the short first down at the tip, to be covered over in a few weeks or so by the "juvenile" feather plumage, also bearing the short first down at the tip.

In the Game Birds we have three definite plumages before the first winter plumage—the first being a down plumage and the others true feathers; and it is perhaps interesting to note that among a small percentage of males in domestic poultry the second plumage, with the exception of the flights, is entirely suppressed.

The question of these plumages, which is of considerable interest, needs much careful further study.

J. LEWIS BONHOTE.

Park Hill House, Carshalton,

25 July, 1921.

The Ornithological Society of France.

We welcome the announcement in the July number of the 'Revue Française d'Ornithologie' of the formation and first meeting of the "Société Ornithologique de France," which was held on 29 May last in the Zoological Theatre of the Museum in Paris. M. Menegaux presided, and the following officers were elected:—Hon. Presidents, MM. Bureau and Simon; President, M. A. Menegaux; Vice-Presidents, Dr. Arnault and M. Lavauden; Secretary, M. J. Rapine; and Treasurer, M. Villette de Pingues.

The Oxford University Expedition to Spitsbergen, 1921.

We are glad to announce that the members of the first party of the Oxford Expedition have now returned safely to England. Some alterations in the original plans had to be made, owing to difficulties of transport during a period of strikes both in England and Norway. From 13 June to 23 June a biological survey of the southern part of Bear Island was carried out by a party of seven under the

direction of the Rev. F. R. C. Jourdain. Here a collection of about 80 skins was made and some 300 eggs were collected, while two new breeding species were recorded for the first time from the island. On 23 June the Expedition sailed for Spitsbergen, and the shores of Ice Fjord, as well as the west and north coast east to Liefre Bay, were explored and further collections made. Mr. J. S. Huxley was in charge of a party encamped on Prince Charles Foreland from 30 June to 11 July, when they rejoined the sloop, which served as base for the rest of the trip. The results have proved most interesting from an ornithological point of view, and also as regards marine zoology, botany, and geology. Altogether about 300 skins have been brought home, including a large proportion of young in down of many species and specimens of all three breeding Geese in their flightless condition. The egg collection consists of about 500 specimens, including no fewer than 22 eggs of the Barnacle-Goose (*Branta leucopsis*). The only authentic eggs of this species taken under natural conditions were the 12 obtained by Professor Koenig's two expeditions in 1907 and 1908. Much valuable information as to the breeding-ranges of the birds of the group was also obtained, and in some cases the courtship habits and life-history have been closely studied. The last paper published in 'The Ibis' on the ornithology of Spitsbergen was in 1897, and only 29 species were then recorded from all sources. At the present time 38 species are known to have occurred on Bear Island alone, while at least 53 must be included in the list from Spitsbergen proper.

News of Capt. Lynes.

Capt. Lynes's last letter is addressed to Dr. Percy Lowe and is dated 3 June, from Talingei, Lat. $12\frac{1}{2}$ N., Long. $25\frac{1}{2}$ E. January to April was spent in the Jebel Marra at 4000-9500 feet, where the peaks and plateau and "downs" were thoroughly explored, and many temperate plants such as bracken, heaths, etc., etc., were obtained. During the rainy season fresh quarters were found on the Wadi Ariba, an



The Godman-Salvin Medal—obverse and reverse.